third multi-pole lens and said fourth multi-pole lens serving as said second main deflector to superimpose an electrostatic deflection field on said multi-pole lens field.--

REMARKS

In the Office Action, the Examiner rejected claims 1–8 under 35 U.S.C. § 102(a) as anticipated by Japanese Publication No. 2001-093825 ("*Osamu Nagano*") and rejected claim 13 under 35 U.S.C. § 103(a) as unpatentable over *Osamu Nagano* in view of U.S. Patent 4,945,246 ("*Davis*"). The Examiner objected to claims 9–12 and 14–20 as dependent upon a rejected base claim, but indicated each would be allowable if rewritten in independent form to include all elements of the base claim and any intervening claim.

Information Disclosure Statement

On August 3, 2001, Applicants submitted an Information Disclosure Statement and Form PTO 1449 along with four references for consideration by the Examiner. To date, Applicants have received no indication that those references have been considered. Applicants kindly request that the Examiner provide an initialed Form PTO 1449 in the next communication from the Office indicating the references submitted August 3, 2001, have been considered.

Amendment

Applicants have amended claim 1 to correct a typographical error. Applicants have inserted the word "so" as indicated in the attached Appendix by underlining. Applicants note that this amendment is made without regarding to any prior art

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reference and should not be considered a disclaimer of any subject matter to which Applicants are entitled either literally or by equivalents.

Rejection under § 102(a)

The Examiner rejected claims 1–8 as anticipated by *Osamu Nagano*. Applicants respectfully traverse the rejection of these claims. The Examiner asserts *Osamu Nagano* anticipates each of claims 1–8 under 35 U.S.C. § 102(a). *Osamu Nagano* was published April 6, 2001. By contrast, the present application claims a priority date of August 4, 2000, which predates the publication date of *Osamu Nagano*. Therefore, *Osamu Nagano* is not available as a prior art reference against the pending claims.

Because no other reference has been cited against these claims, Applicants submit that claims 1–8 are allowable and request withdrawal of their rejection.

Rejection under § 103(a)

The Examiner rejected claim 13 under § 103(a) as unpatentable over *Nagano Osamu* in view of *Davis*. As indicated above, *Nagano Osamu* is not available as a prior art reference against the pending claims. Therefore, the only cited reference against claim 13 is *Davis*. According to the Examiner, *Davis* discloses "an E-beam deflection system wherein the inside diameter of said first multi-pole lens and said second multi-pole lens is a first inside diameter and the inside diameter of said third multi-pole lens and said fourth multi-pole lens is a second inside diameter which is greater than said first inside diameter." (Paper No. 7, at 6.) Without agreeing with the Examiner's characterization of *Davis*, *Davis* fails to disclose or suggest, at least, "a reducing projecting optical system which forms a multi-pole lens field so that the charged particle beams passing through said character aperture substantially reduce at the same

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demagnification both in X and Y directions when the optical axis extends in Z directions and form an image on the substrate without forming any crossover between said character aperture and the substrate," as recited in claim 1, from which claim 13 depends. Absent a disclosure or suggestion of each claim element recited in claim 13, *Davis* cannot render the claim obvious. In addition, there is no motivation to modify *Davis* or any expectation of achieving the claimed combination, as required for rejection under § 103.

Applicants submit that claims 1–8 and 13 are allowable and kindly request withdrawal of the rejection of these claims. Applicants similarly submit that claims 9–12 and 14–20 are allowable as written at least because of their dependence from allowable base claims. Applicants further submit that new claims 21–25 are also allowable over the cited reference.

In view of the foregoing amendments and remarks, Applicants respectfully request the reconsideration of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
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Dated: June 13, 2003

By: _____
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APPENDIX

1. (Amended) A charged particle beam exposure system comprising:

a charged particle beam emitting device which generates charged particle beams with which a substrate is irradiated, said charged particle beam emitting device generating the charged particle beams at an accelerating voltage which is lower than that at which an influence of a proximity effect occurs, the proximity effect being a phenomenon in which a secondary charged particle and/or a reflected charged particle which is/are produced from the surface of the substrate irradiated with the charged particle beams influence(s) an exposure extent of a pattern which is adjacent to a pattern to be written;

an illumination optical system which adjusts a beam diameter of the charged particle beams so that density of the charged particle beams is uniform;

a character aperture in which an aperture hole is formed in a shape corresponding to a desired pattern to be written;

a first deflector which deflects the charged particle beams by an electrostatic field so that the charged particle beams have a desired sectional shape and travel towards a desired aperture hole and which returns the charged particle beams passing through said aperture hole to an optical axis thereof;

a reducing projecting optical system which forms a multi-pole lens field so that the charged particle beams passing through said character aperture substantially reduce at the same demagnification both in X and Y directions when the optical axis extends in Z directions and form an image on the substrate without forming any crossover between said character aperture and the substrate; and

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a second deflector which deflects the charged particle beams passing through said character aperture by means of an electrostatic field to scan the substrate with the charged particle beams.

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